

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave.St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003006**Date Inspected:** 13-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Fu Yu Hong**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

The QA inspector observed ZPMC performing layout, cutting, beveling, milling, fitting and welding activities in bay # 1 and 2 on Tower Assembly shop.

The QA inspector observed ZPMC welder Liu Juan performing welding operations with the flux cored arc welding (FCAW) process using the WPS-B-T-2231-B-U3-F in the flat (1G) position at the junction of section SSD1-SA173 H/K-5 longitudinal stiffener splice. The QA inspector performed welding parameters verifications. The QA inspector found that the welding parameters appeared to be in compliance with the contract documents.

**Heat Straightening Operations**

The QA inspector observed ZPMC performing heat straightening operations at the skin plate # p147(s), P146(s), P144(s), P37(s), P351 (s), P32(s) correcting a 8 mm total deformation according with HSR1(T)-2362. ZPMC's heat straightening operations appeared to be in compliance with the contract documents.

**Ultrasonic testing**

The QA inspector performed ultrasonic testing (UT) at the completed joint penetration at the skin plates splices weld joints # SSD1-SA 159-E/J-14; SSD1-SA-159-E/J-7B, SSD1-SA159-E/J-10, SSD1-SA159-E/J-24A, SSD1-SA159-E/J-19, SSD1-SA15-A/F-32 and SSD1-SA159-E/J-23A. The QA inspector performed 10 % UT at random location. The QA inspector found that welds areas tested appeared to be in compliance with the contract

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## WELDING INSPECTION REPORT

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documents. See UT report TL\_6027 generated on this date.

Note: No production welding was observed in Tower bay # 2 on this date.

The QA inspector witnessed 25 % magnetic particle testing (MT) performed by ZPMC representative Zhan Dong Yun on the Tower Mock-up # 1 at the junction of longitudinal stiffener to the skin plate. ZPMC found that welds weld areas tested in compliance with the contract documents. ZPMC's MT appeared to be in compliance with the contract documents.

The QA inspector performed dimensional inspection to the Tower Mock-up # 1 before cutting the macroetch specimens. The QA verified tilt and flatness of the longitudinal stiffeners. The QA inspector found that dimensions appeared to be in compliance with the contract documents.

Skin E East lift # 1

The QA inspector observed ZPMC performing welding operations with the submerged arc welding (SAW) process using the WPS-BT2221-U3 c-S in the flat (1G) position at the junction of the weld joint # ESD1-SA-216 F/K-13B longitudinal Stiffener. The QA inspector performed welding parameters verifications. The QA inspector found that the welding parameters appeared to be in compliance with the contract documents. Welding operator was Chen HongXia (040460).

Skin C East lift # 1

The QA inspector observed ZPMC performing welding operations with the submerged arc welding (SAW) process using the WPS-BT2221-U3 c-S in the flat (1G) position at the junction of the weld joint # ESD1-SA-77 A/E-46B longitudinal Stiffener. The QA inspector performed welding parameters verifications. The QA inspector found that the welding parameters appeared to be in compliance with the contract documents. Welding operator was Chen HongXia (040460).

### Summary of Conversations:

The QA inspector did not have any relevant conversation on this date.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Acuna,Alfredo	Quality Assurance Inspector
<b>Reviewed By:</b>	Cochran,Jim	QA Reviewer

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